

## ABSTRACT OF THE DISCLOSURE

A bending vibration of a piezoelectric vibrating plate is amplified and transmitted to a vibration shaft and a liquid detecting element, so that the liquid detecting element is soundly vibrated in a circular direction in a measuring liquid. A plurality of piezoelectric vibrating plates 19, which each contact a bending vibration, are axially symmetrically arranged in the axial direction with respect to the vibration shaft 1 so that the piezoelectric vibrating plates 19 conduct a bending vibration, lower vibrating ends 14 of the piezoelectric vibrating plates 19 are rigidly connected (vibration suppressing connection) to a vibration suppressing member 13 and inner ends of upper vibration ends 15 of the piezoelectric vibrating plates 19 are rigidly connected (vibration connection) to the vibration shaft 1, an inner end edge of each of the piezoelectric vibrating plates 19 excluding the vibration connection part 17 is held free with respect to the vibration shaft 1, a bending vibration at the lower vibrating end 14 of each of the piezoelectric vibrating plates 19 is suppressed on the vibration suppression connection part 16 side and a bending vibration at the upper vibrating end 15 is amplified, the amplified bending vibration at each upper vibrating end is applied to the vibration shaft 1 and the liquid detecting element 3 which is disposed at a lower end of the vibration shaft 1, through the vibration connection part 17, so that the liquid detecting element 3 is vibrated in the circular direction in the measuring liquid 2.